UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/740,790	12/21/2000	Hirotaka Yamaji	NEC2090-US	6402

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EXAMINER
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ART UNIT	PAPER NUMBER
2654	

DATE MAILED: 03/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 January 2004* .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☒ Claim(s) *7* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *21 December 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

        1.☒ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1.   The text of those sections of Title 35, U.S. Code not included in this action can

be found in a prior Office action.

Continued Examination Under 37 CFR 1.114

2.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 15

January 2004 has been entered.

Response to Amendment

3.   The claims were changed as indicated and examined on the merits.

Specification

4.   The title of the invention is not descriptive. A new title is required that is clearly

indicative of the invention to which the claims are directed.

The following title is suggested:

"Audio Playback/Recording Apparatus Having Multiple Decoders in ROM"

Claim Objections

5.   Claim 7 is objected to under 37 CFR 1.75(c), as being of improper dependent

form for failing to further limit the subject matter of a previous claim. Applicant is

required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper

dependent form, or rewrite the claim(s) in independent form. The features of the claim

are the same as those features for storing *a plurality of decompression firmwares in*

ROM and for *using a decompression firmware selected from among the plurality of*

decompression firmwares based on the attribution data that were added by amendment

for this action.

Claim Rejections - 35 USC § 103

6.   This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

Ozawa *et al*, Sako *et al*, Dwyer *et al* & Liem *et al*

7.   Claims 1-3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable

over <u>Ozawa *et al*</u> (Japan Patent 09-265731) in view of <u>Sako *et al*</u> (European Patent 0

762 417 A2) and further in view of <u>Dwyer *et al*</u> (U.S. Patent 6,571,211) and further in

view of <u>Liem *et al*</u> ("An Embedded System Case Study: The Firm Ware Development

Environment For A Multimedia Audio Processor", ACM IEEE Design Automation

Conference Proceedings, March 1997).

8.   Regarding claim 1, the *Speech Reproducing Device And Its Method, Speech*

Recording Device And Its Method, Speech Recording And Reproducing System,

Speech Data Transfer Method, Information Receiving Device, And Reproducing Device

of <u>Ozawa *et al*</u> reads on the features of the *audio playback/recording apparatus* of the

immediate application as follows:

-   <u>Ozawa *et al*</u> (section [0048]) reads on the feature of *an audio input processing*

    section, which receives analog audio data (line 1) *and converts analog audio data to*

    digital audio data (line 4);

-   <u>Ozawa *et al*</u> (section [0055]) reads on the feature of *a playback/recording processing*

    section

-   <u>Ozawa *et al*</u> (section [0043]) reads on the feature of *a compression section* (line 3)

    which compresses digital audio data output from audio input processing section and

    stores compressed digital audio data (section [0023] last line)

- <u>Ozawa *et al*</u> (section [0013] lines 4-5) reads on the feature of *an audio output processing section, which receives decompressed digital audio data output from playback-recording processing section,*

- <u>Ozawa *et al*</u> (section [0013] lines 6-7) reads on the feature of *converts decompressed digital audio data to analog audio data, and*

- <u>Ozawa *et al*</u> (17 in drawing 5) reads on the feature of *outputs analog audio data to an output apparatus;*

- <u>Ozawa *et al*</u> (section [0017] lines 1-5) reads on the feature of *an external recording circuit section,*

- <u>Ozawa *et al*</u> (section [0046] line 6) reads on the feature of *which records compressed digital audio data stored in RAM into an external recording medium;*

- <u>Ozawa *et al*</u> (section [0055] lines 8-9) reads on the feature of *reads out compressed digital audio data from external recording medium;*

- <u>Ozawa *et al*</u> (section [0016] lines 1-3) reads on the feature of *stores readout data into RAM.*

Where <u>Ozawa *et al*</u> disclose decompression (as *"elongating"* in section [0017]), he mentions only the compressed input being of *"predetermined format"* and does not detail either format or means by which they are determined.

<u>Sako *et al*</u> (3 in figure 4) reads on the feature of storing *attribution data into a RAM* (page 11 line 29), *and* (in 202 & 306 of figures 11 & 12), <u>Sako *et al*</u> further reads on the feature of *an expansion section, which decompresses compressed digital audio data stored in RAM.*

Where the attribution data of Sako *et al* (illustrated by 4 & 21 in figure 6) does not

indicate the type of coding method used, the voice header data record of Dwyer *et al*

does (with 112 in figure 5) read on the feature of *indicating a type of a compression of*

compressed digital audio data which would control subsequent processing (column 9

lines 37-43) *based on attribution data indicating a type of a compression of compressed*

digital audio data stored in RAM.

It would have been obvious to a person of ordinary skill in the art of speech

signal processing at the time of the invention to apply the method/teachings of Sako *et*

al & Dwyer *et al* to the device/method of Ozawa *et al* so as to match the methods used

to decode and decode the signal.

Regarding the added features of storing *a plurality of decompression firmwares*

in ROM and that *by using a decompression firmware selected from among the plurality*

of decompression firmwares based on the attribution data, neither Ozawa *et al* nor Sako

et al nor Dwyer *et al* mention *decompression by firmware on ROM.*

Liem *et al* discloses designating memory into ROM for constant filter coefficients

and RAM to hold intermediate data (2nd page, 3rd paragraph left column), reading on the

feature of *a plurality of decompression firmwares stores in ROM* while stating that the

objective is to develop CODECS for audio decompression algorithms including MPEG2,

Dolby AC-3 Surround & Dolby Pro-logic (1st page, 1st paragraph, left column), reading

on the feature of *using a decompression firmware selected from among the plurality of*

decompression firmwares based on the attribution data (2nd paragraph of section 1 –

Introduction, 1st page left column). This would have made it obvious to a person of

ordinary skill in the art of speech signal processing at the time of the invention to apply

the method/teachings of Liem *et al* to the device/method of Ozawa *et al*, Sako *et al* &

Dwyer *et al* to handle several CODECS without having to increase the size of the device

proportionately.

9.   Regarding claim 2, the claim is set forth with the same limits as claim 1.

Ozawa *et al* (0044 lines 3-6) teaches the feature of *comprising a general-purpose*

interface circuit section, which (section [0043 line 3) *transfers digital audio data to an*

external apparatus connected thereto from external recording medium (section [0055]

lines 8-9).

Where Ozawa *et al* does not mention *attribution data* Sako *et al* does (with 3 in

figure 4) and, where the *attribution data* of Sako *et al* does not *indicate compression*

type, Dwyer *et al* (112 in figure 5) reads on the feature of *indicating a type of a*

compression of digital audio data. Osaka (with 22 in figure 4) reads on the feature that

receives digital audio data from external apparatus and transfers digital audio data and

attribution data that, with Dwyer *et al* (column 9 lines 37-43) *indicating a type of a*

compression of compressed digital audio data to external recording medium.

It would have been obvious to a person of ordinary skill in the art of speech

signal processing at the time of the invention to apply the method/teachings of Sako *et*

al & Dwyer *et al* to the device/method of Ozawa *et al* so as to insure that decoding takes

place with full knowledge of the compression method.

10.   Regarding claim 3, the claim is set forth with the same limits as claim 2.

Ozawa *et al* acknowledges copyright protection (section [0033], last line) only from the

aspect of recording access from a source for royalty purposes and not as a protected

coding method. Sako *et al* (page 11 line 29) reads on the feature of *a protection*

processing section for performing protection processing of digital audio data, which

would have made it obvious to a person of ordinary skill in the art of speech signal

processing at the time of the invention to apply the method/teachings of Sako *et al* to

the device/method of Ozawa *et al* so as to avoid illegitimate access.

11.   Regarding claim 7 as understood by the Examiner, the claim is set forth with the

same limits as claim 1. The features of the claim are the same as those features

addressed as added in this action (above) and the claim is rejected for the same

reasons.

Ozawa *et al*, Sako *et al*, Dwyer *et al*, Liem *et al* & Milsted *et al*

12.   Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Ozawa *et al* in view of Sako *et al* and further in view of Dwyer *et al* and further in view of

Liem *et al* and further in view of Milsted *et al* (U.S. Patent 6,263,313).

13.   Regarding claim 4, the claim is set forth with the same limits as claim 3.

Neither Sako *et al* nor Dwyer *et al* nor Ozawa *et al* nor Liem *et al* specify in detail the

mechanism of protecting intellectual property.

- Milsted *et al* (301 & 303 in figure 3) reads on the features of *an encryption section which encrypts digital audio data* and of *a decryption section which decrypts encrypted digital audio data,*

- Milsted *et al* (306 in figure 3) reads on the feature of *an authorization data generation section, which generates authorization data* (307A in figure 3) *sent to external apparatus* (307B in figure 3) *connected to general-purpose interface circuit section* (represented as 146 (E) of figure 1C)

- Milsted *et al* (183 in figure 1C) reads on the feature of *an authorization data verification section, which verifies authorization data sent from external apparatus connected to general-purpose interface circuit section* (as 142 (D) of figure 1C).

- It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Milsted *et al* to the device/method of Ozawa *et al*, Sako *et al*, Dwyer *et al* & Liem *et al* to allow legitimate users access to the materials.

14.   Regarding claim 5, the claim is set forth with the same limits as claim 3. Neither Ozawa *et al* nor Sako *et al* nor Dwyer *et al* nor Liem *et al* specify in detail the mechanism of protecting intellectual property.

- Milsted *et al* (301 & 303 in figure 3) reads on the feature of *an encryption section which encrypts digital audio data,*

- Milsted *et al* (301 & 303 in figure 3) reads on the feature of *a decryption section which decrypts encrypted digital audio data,*

- Milsted *et al* (301 & 303 in figure 3) reads on the feature of *an authorization data writing section which writes authorization data into digital audio data transferred to external apparatus* (307B in figure 3) *connected to general-purpose interface circuit section* (represented as 146 (E) of figure 1C).

- Milsted *et al* (column 83 lines 56-59) reads on the feature of *an authorization data extraction section* (function/operation performed by Secure Container processing) *which extracts authorization data from digital audio data received from external apparatus connected to general-purpose interface circuit section* (represented as 142 (D) of figure 1C).

    It would have been obvious to a person of ordinary skill in the art of speech signal processing at the time of the invention to apply the method/teachings of Milsted *et al* to the device/method of Ozawa *et al*, Sako *et al*, Dwyer *et al* & Liem *et al* to avoid the authorization keys from appearing as noise on playback.

Ozawa *et al*, Sako *et al*, Dwyer *et al*, Liem *et al*, Milsted *et al* & Van Wie *et al*

15.   Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa *et al* in view of Sako *et al* and further in view of Dwyer *et al* and further in view of Liem *et al* and further in view of Milsted *et al* and further in view of Van Wie *et al* (U.S. Patent 6,240,185).

16.   Regarding claim 6, the claim is set forth with the same limits as claim 1. While Ozawa *et al* discloses *headers* (section [0035]) holding administration data,

neither <u>Ozawa</u> *et al* nor <u>Sako</u> *et al* nor <u>Dwyer</u> *et al* nor <u>Liem</u> *et al* nor <u>Milsted</u> *et al*

specifically mention that such information would include *authorization*.

<u>Van Wie</u> *et al* (column 17 lines 18-19) reads on the feature that the *authorization*

data writing section writes authorization data within a header information section of

digital audio data which would have made it obvious to a person of ordinary skill in the

art of speech signal processing at the time of the invention to apply the

method/teachings of <u>Van Wie</u> *et al* to the device/method of <u>Ozawa</u> *et al*, <u>Sako</u> *et al,*

<u>Dwyer</u> *et al*, <u>Liem</u> *et al* & <u>Milsted</u> *et al* to avoid having non-acoustic authorization and

other protocols interfere with the payload signal.

Conclusion

17.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

-   <u>Ono</u> (Japan Patent 09-319690 A) firmware control system delivers different codes

    out of ROM as required.

-   <u>Frankel</u> *et al* (U.S. Patent 6,075,784 A) for communicating voice and data over a

    local packet network.

-   <u>Breternitz</u> *et al* ("Enhanced Compression Techniques to Simplify Program

    Decompression and Execution", International Conference on Computer Design:

    VLSI in Computers and Processors, October 1997) Compressing reduces cost of

    embedded systems by reducing program ROM-size requirements.

18.   Any inquiry concerning this communication or earlier communications from the

Examiner should be directed to Daniel A. Nolan at telephone (703) 305-1368 whose

normal business hours are Mon, Tue, Thu & Fri, from 7 AM to 5 PM.

If attempts to contact the examiner by telephone are unsuccessful, supervisor

Richemond Dorvil can be reached at (703)305-9645.

The fax phone number for Technology Center 2600 is (703)872-9314. Label

informal and draft communications as "DRAFT" or "PROPOSED", & designate formal

communications as "EXPEDITED PROCEDURE". Formal response to this action may

be faxed according to the above instructions,
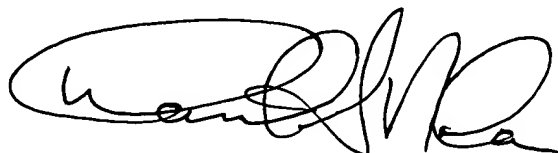
or mailed to: Mail Stop AF (or CPA, etc. – see Official Gazette, 04 November 2003)
                       P.O. Box 1450
                       Alexandria, VA 22313-1450

or hand-deliver to: Crystal Park 2,
                       2121 Crystal Drive, Arlington, VA,
                       Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to Technology Center 2600 Customer Service Office at

telephone number (703) 306-0377.

                                       Daniel A. Nolan
                                       Examiner
                                       Art Unit 2654

DAN/d
February 26, 2004

DANIEL NOLAN
PATENT EXAMINER